#2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Express Mail No.: EL627511168US

Applicant(s): WICHMAN et al.

SERIAL NO.:

EXAMINER:

FILING DATE: Herewith

ART UNIT:

TITLE: METHOD FOR TRANSMITTING INFORMATION IN A COMMUNICATION

SYSTEM, A COMMUNICATION SYSTEM AND A WIRELESS COMMUNICATION

DEVICE

ATTORNEY DOCKET NO.: 460-010710-US (PAR)

Commissioner of Patents Washington, D.C. 20231

INFORMATION DISCLOSURE STATEMENT

Dear Sir:

The following information is being disclosed to the Patent and Trademark Office as information that may be material to the examination of the above-identified patent application.

This Information Disclosure Statement is filed together with the above-identified patent application. Thus, a certification under 37 CFR (e) or fee under 37 CFR 1.17(p) is not required for the information herein to be considered.

The above-identified patent application claims priority to Finnish Patent Application No. FI 20002568 filed November 23, 2000. Applicants' attorney encloses a copy of a Finnish Office Action (and English translation thereof) issued on the priority Finnish Patent Application No. FI 20002568. The Office Action cited "Optimum training sequences for OFDM Systems With Multiple Transmit Antennas", Globecom '00 - IEEE, Global Telecommunications Conference, 2000, pp. 1478-1482, Vol. 3; "Channel Estimation And Adaptive Power Allocation For



Performance And Capacity Improvement Of Multiple Antenna OFDM Systems",2001 IEEE Third Workshop on Signal Processing Advances in Wireless Communications, Tung et al., pp. 82-85; "Optimal Sequences For Channel Estimation Using Discrete Fourier Transform Techniques", IEEE Transactions on Communications, Tellambura et al., Vol. 47, No. 2, 1999, pp. 230-238.

Copies of the Finnish Office Action, English translation thereof and cited references are enclosed together with PTO-Form 1449.

Respectfully submitted,

Clarence A. Green

Reg. No.: 24,622

Date

PERMAN & GREEN, LLP

425 Post Road, Fairfield, CT 06430

(203) 259-1800

Customer No.: 2512

Page No.: 1 of: 1

| INFORMATION DISCLOSURE | | Docket No.: 460-010710-US(PAR) Serial No.: | | 0.: | 5 = | |
|------------------------------------|--|---|--|---|--|--|
| CITATION FORM FOR | | Amplicant(s), WICLD (ANI et al. | | | 98 | |
| PATENT APPLICATION (FORM PTO 1440) | | Applicant(s): WICHMAN et al. | | | 22.0 | |
| (FORM PTO-1449) | | Ditt. D. Hammitch | Group: | | | |
| (Dubblitute) | | | | | | |
| Tenision 1 | Dotont Mumban | Issue Date | U.S. PATENTS Name | Class | Sub- | Filing date |
| Initials | Patent Number | issue Date | Name | Class | class | rining-traite |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | : |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | · | | |
| | | , | | | | |
| | | | | | | |
| | | | | | | |
| FOREIGN PATENT DOCUMENTS | | | | | | |
| | | FOF | REIGN PATENT DOCUMEN | TS | | |
| Initials | Document Number | Date | Country | Name | ; | Translation? Yes/No/n/a |
| Initials | Document Number | | | | > | |
| Initials | Document Number | | | | > | |
| Initials | Document Number | | | | - | |
| Initials | Document Number | | | | > | |
| Initials | Document Number | | | | | |
| Initials | Document Number | | | | > | |
| Initials | | Date | Country | Name | | |
| Initials | ОТНЕ | Date R DOCUME | Country NTS (Title, Author, Date, Pag | Name | /n) | Yes/No/n/a |
| Initials | OTHE | Date R DOCUME equences for OFI | Country | Name | /n) | Yes/No/n/a |
| Initials | OTHE | Date R DOCUME equences for OFI Conference, 200 | NTS (Title, Author, Date, Pag DM Systems With Multiple Transmit A 10, pp. 1478-1482, Vol. 3. | Name ges, Etc., if know Antennas", Globecon | / n) n '00 – IEEI | Yes/No/n/a |
| Initials | OTHE "Optimum training se Telecommunications "Channel Estimation | R DOCUME equences for OFI Conference, 200 And Adaptive P | NTS (Title, Author, Date, Pag DM Systems With Multiple Transmit A 10, pp. 1478-1482, Vol. 3. | Name ges, Etc., if know Antennas", Globecon Capacity Improvem | v n) n '00 – IEEI | Yes/No/n/a E, Global iple Antenna |
| Initials | OTHE: "Optimum training se Telecommunications "Channel Estimation OFDM Systems",200 | R DOCUME equences for OFI Conference, 200 And Adaptive P | NTS (Title, Author, Date, Pag DM Systems With Multiple Transmit A 10, pp. 1478-1482, Vol. 3. | Name ges, Etc., if know Antennas", Globecon Capacity Improvem | v n) n '00 – IEEI | Yes/No/n/a E, Global iple Antenna |
| Initials | OTHE "Optimum training se Telecommunications "Channel Estimation | R DOCUME equences for OFI Conference, 200 And Adaptive P | NTS (Title, Author, Date, Pag DM Systems With Multiple Transmit A 10, pp. 1478-1482, Vol. 3. | Name ges, Etc., if know Antennas", Globecon Capacity Improvem | v n) n '00 – IEEI | Yes/No/n/a E, Global iple Antenna |
| Initials | OTHE "Optimum training se Telecommunications "Channel Estimation OFDM Systems",200 82-85. | R DOCUME equences for OFI Conference, 200 And Adaptive Po | Country NTS (Title, Author, Date, Page DM Systems With Multiple Transmit A 10, pp. 1478-1482, Vol. 3. Dower Allocation For Performance And Yorkshop on Signal Processing Advance | Name ges, Etc., if know Antennas", Globecon Capacity Improvemes in Wireless Comm | n '00 – IEEF nent Of Mult munications, | Yes/No/n/a E, Global iple Antenna Tung et al., pp. |
| Initials | OTHE "Optimum training se Telecommunications "Channel Estimation OFDM Systems",200 82-85. "Optimal Sequences | Date R DOCUME equences for OFI Conference, 200 And Adaptive Pol IEEE Third W | NTS (Title, Author, Date, Pag DM Systems With Multiple Transmit A 10, pp. 1478-1482, Vol. 3. | Name ges, Etc., if know Antennas", Globecon Capacity Improvemes in Wireless Comm | n '00 – IEEF nent Of Mult munications, | Yes/No/n/a E, Global iple Antenna Tung et al., pp. |
| Initials | OTHE "Optimum training se Telecommunications "Channel Estimation OFDM Systems",200 82-85. "Optimal Sequences | Date R DOCUME equences for OFI Conference, 200 And Adaptive Pol IEEE Third W | Country NTS (Title, Author, Date, Pag DM Systems With Multiple Transmit A 10, pp. 1478-1482, Vol. 3. Dower Allocation For Performance And Torkshop on Signal Processing Advance Imation Using Discrete Fourier Transfer | Name ges, Etc., if know Antennas", Globecon Capacity Improvemes in Wireless Comm | n '00 – IEEF nent Of Mult munications, | Yes/No/n/a E, Global iple Antenna Tung et al., pp. |
| Initials | OTHE "Optimum training se Telecommunications "Channel Estimation OFDM Systems",200 82-85. "Optimal Sequences | Date R DOCUME equences for OFI Conference, 200 And Adaptive Pol IEEE Third W | Country NTS (Title, Author, Date, Pag DM Systems With Multiple Transmit A 10, pp. 1478-1482, Vol. 3. Dower Allocation For Performance And Torkshop on Signal Processing Advance Imation Using Discrete Fourier Transfer | Name ges, Etc., if know Antennas", Globecon Capacity Improvemes in Wireless Comm | n '00 – IEEF nent Of Mult munications, | Yes/No/n/a E, Global iple Antenna Tung et al., pp. |
| Examine | "Optimum training se Telecommunications "Channel Estimation OFDM Systems",200 82-85. "Optimal Sequences I Communications, Teles"'s Signature: | R DOCUME equences for OFI Conference, 200 And Adaptive Pol IEEE Third W For Channel Estillambura et al., V | Country NTS (Title, Author, Date, Page DM Systems With Multiple Transmit A 0, pp. 1478-1482, Vol. 3. Ower Allocation For Performance And Orkshop on Signal Processing Advance Imation Using Discrete Fourier Transfer Vol. 47, No. 2, 1999, pp. 230-238. | Name Res, Etc., if know Antennas", Globecon Capacity Improvemes in Wireless Common Techniques", IE | n '00 – IEEE nent Of Mult munications, EEE Transact | Yes/No/n/a E, Global iple Antenna Tung et al., pp. |
| Examine | OTHE "Optimum training se Telecommunications "Channel Estimation OFDM Systems",200 82-85. "Optimal Sequences I Communications, Teleston Sequences I communications, Teleston Sequences I reference was considerated to the sequence of the sequences I | Pate R DOCUME equences for OFI Conference, 200 And Adaptive Portion of the property of the | Country NTS (Title, Author, Date, Pag DM Systems With Multiple Transmit A 10, pp. 1478-1482, Vol. 3. Dower Allocation For Performance And Torkshop on Signal Processing Advance Imation Using Discrete Fourier Transfer | Capacity Improvemes in Wireless Comport Techniques", IE | n'00 – IEEF ment Of Mult munications, EEE Transact d: citation if no | Yes/No/n/a E, Global iple Antenna Tung et al., pp. |

Express Mail No.: EL627511168US